

Amendments to the Claims

Please amend the claims without prejudice. The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) A hydraulic braking device (10) configured to operate with ~~for~~ a turbine (2) in a drilling equipment, the ~~said~~ turbine (2) being provided with a turbine shaft (4),
wherein the hydraulic braking device comprises at least one body (12) connected to the ~~said~~ turbine shaft (4),
and wherein when the ~~said~~ hydraulic braking device (10) is immersed in a fluid medium, rotation of the turbine shaft (4) about its axis (6) causes a movement of the ~~said~~ at least one body (12) with respect to the ~~said~~ fluid medium, this movement generating a resisting torque (T) that is a function of the square of the rotation speed (ω_t) of the turbine shaft (4) with respect to the ~~said~~ fluid medium.
2. (Currently amended) The device (10) according to claim 1, further comprising a braking shaft (14) coupled to the ~~said~~ turbine shaft (4), the ~~said~~ at least one body (12) being connected to the ~~said~~ braking shaft (14).
3. (Currently amended) The device (10) according to claim 2, wherein the ~~said~~ coupling between the braking shaft (14) and the turbine shaft (4) is such that an axial rotation of the turbine shaft (4) causes axial rotation of the braking shaft (14).
4. (Currently amended) The device (10) according to claim 2, wherein the braking shaft (14) is coaxial with the turbine shaft (4).
5. (Currently amended) The device (10) according to claim 2, wherein the braking shaft (14) and the turbine shaft (4) are combined into a single shaft.

6. (Currently amended) The device according to claim 2, wherein the braking shaft (14) and the turbine shaft (4) are coupled through a coupling device (50).

7. (Currently amended) The device (10) according to claim 6, wherein the ~~said~~ coupling device (50) is a gearbox.

8. (Currently amended) The device (10) according to claim 6, wherein the ~~said~~ coupling device (50) is a clutch.

9. (Currently amended) The device (10) according to claim 2, wherein the ~~said~~ at least one body (12) is driven in rotation with the braking shaft (14) when the turbine shaft (4) rotates about its axis.

10. (Currently amended) The device (10) according to claim 2, wherein the ~~said~~ at least one body (12) is rigidly connected to the ~~said~~ braking shaft (14) through a connecting means (18, 20).

11. (Currently amended) The device (10) according to claim 2, wherein the ~~said~~ at least one body (12) is fixed directly onto the braking shaft (14) through a connecting means composed of at least one anchor zone (18) of the body (12).

12. (Currently amended) The device (10) according to claim 2, wherein the ~~said~~ at least one body is connected to the ~~said~~ braking shaft (14) through a connecting means composed of at least one rigid arm (20).

13. (Canceled)

14. (Currently amended) The device (10) according to claim 2 wherein when ~~it~~ the hydraulic braking device comprises more than one body (12), the ~~said~~ bodies (12) are distributed around the periphery of the braking shaft (14), in a regular manner, or in a non-regular manner.

15. (Currently amended) The device (10) according to claim 2, wherein when ~~it~~ the hydraulic braking device comprises more than one body (12), the ~~said~~ bodies (12) have either all the same axial positions along the braking shaft (14), or different axial positions along the braking shaft (14).

16. (Currently amended) The device (10) according to claim 1, wherein when ~~it~~ the hydraulic braking device comprises more than one body (12), the ~~said~~ bodies (12) are chosen to be identical or different

17. (Currently amended) The device (10) according to claim 1, wherein when ~~it~~ the hydraulic braking device comprises more than one body (12), the ~~said~~ bodies (12) all have the same dimensions.

18. (Canceled)

19. (Currently amended) The device (10) according to claim 1, wherein ~~it~~ the hydraulic braking device is arranged on the downstream side of the turbine (2) with respect to a flow direction of the fluid medium.

20. (Cancelled).

21. (Currently amended) The turbine (2) according to claim 1, wherein the turbine (2) is immersed in a first fluid medium and the braking device (10) is immersed in a second fluid medium.

22. (Currently amended) A drilling equipment, ~~further comprising at least one~~ the turbine (2) ~~equipped with a hydraulic braking device (10)~~, according to claim ~~20 or~~ 21.

23. (Currently amended) A turbine (2) comprising:

- a turbine shaft (4) and;

- a hydraulic braking device (10) comprising at least one body (12) connected to the ~~said~~ turbine shaft (4);

wherein when the ~~said~~ hydraulic braking device (10) is immersed in a fluid medium, rotation of the turbine shaft (4) about its axis (6) causes a movement of the ~~said~~ at least one body (12) with respect to the ~~said~~ fluid medium, this movement generating a resisting torque (T) that is a function of the square of the rotation speed (ω_t) of the turbine shaft (4) with respect to the ~~said~~ fluid medium.